FARMERS ACCOUNT BOOK

COMPLIMENTS OF

BURNS & CO., LIMITED

This Booklet belongs to: .....

Address .....

.....

.....

Telephone No. .....

In case of accident notify: .....

.....

.....

DESCRIPTION OF FARM AND BUILDINGS

1. Sec. ..... Tp. ..... Rge. ..... Mer. ..... Acres in crop .....
2. Sec. ..... Tp. ..... Rge. ..... Mer. ..... Acres in pasture .....
3. Sec. ..... Tp. ..... Rge. ..... Mer. ..... Acres in summerfallow .....
4. Sec. ..... Tp. ..... Rge. ..... Mer. .....
5. Sec. ..... Tp. ..... Rge. ..... Mer. .....
6. Sec. ..... Tp. ..... Rge. ..... Mer. .....

BUILDINGS

.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

$35
JA

FOREWORD

IN RECENT YEARS, more attention has been given to the proper feeding of live stock in Canada than the subject has received at any time during the past 25 years.

This question is of vital importance to the producers of live stock in all countries, and particularly in Western Canada, which, after all, is a new country, where the facilities for the breeding, rearing, fattening and finishing of live stock are, in many instances, not all they should be. A great many farmers have diversified their operations in recent years, and there is no doubt many breeders will gain considerable experience as time goes on.

Western Canada has made great strides in the production of live stock. In this we do not refer to cattle alone—because Western Canada has always produced range cattle in large numbers. Present-day production of beef, however, (as distinguished from the practice of turning cattle loose on the range and rounding them up in the fall as was the practice 25 years ago), requires that feeders must have a working knowledge of feeding and the mixing of feeds, in order to produce the best results at a minimum of expense.

In production of hogs, Western Canada has shown great increases during recent years. The West is now producing more hogs than is Eastern Canada. In the production of hogs, greater care in feeding has to be exercised than in the production of any other animal; otherwise mortality in young pigs is enormous. This loss can be overcome through proper feeding of the sows during the gestation period, and of the young pigs as well.

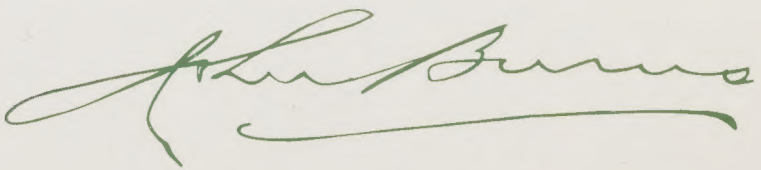
Our agricultural colleges and universities, as well as the packers and feed companies, have spent a great deal of time and money on research in connection with this question of feeds and feeding. In recent years Burns & Co. Limited have built up a substantial feed business, and are, today, in a position to offer the live stock producers and feeders of Western Canada a complete line of feeds and supplements for live stock and poultry.

Time and experience have proven the necessity as well as the value of these feeds to the producers of live stock, and we recommend them with absolute knowledge of what they will do, based on the voluntary statements of those who have used them. Their use by the live stock feeders is a sound investment which pays large profits as the feeders' experience has demonstrated.

The increased production of live stock and live stock products during the period of the war is a national duty, and every effort should be made to accomplish the desired aim. In addition to this, the market value of live stock in these times is such that the producer cannot afford to lose any stock. The lack of the necessary proteins, minerals and vitamins in the feed has been a major cause of high mortality in all young stock, especially in suckling pigs and baby chicks.

Burns & Co. Limited are prepared to give all live stock feeders the benefit of the experience they have gained through laboratory and feeding tests, and will appreciate inquiries from feeders and producers.

BURNS & CO. LIMITED,



Burns'

VIGOR

REGISTERED

Edmonton Plant.

Winnipeg Plant.

Calgary Plant.

Regina Plant.

Prince Albert Plant.

5

FEED MANUFACTURING PLANTS

Conveniently situated for economical distribution in Manitoba, Saskatchewan and Alberta.

FEEDING PRINCIPALS

The basic requirements of a good ration are:—

That it supply *enough* of needed food values.

That it be *balanced* in major food elements.

That it provide *variety* in order to assure balance within each class of food elements.

That it be *palatable* in order to stimulate consumption.

That it be *digestible* and *gently regulatory.*

That it assure a *sufficiency* of the vital *accessory factors* such as vitamins and minerals.

ENOUGH

The first principal of feeding deals with the amount to be fed. When we speak of feeding enough, we mean feeding just the right amount—neither too little nor too much. What constitutes enough varies not only with the type of animal, but with the individual animal itself.

A certain portion of each ration goes into tissue building and repairing, into supplying heat and energy, into maintaining the animal. This maintenance job is the first requirement of feeding. Until its bodily needs are met, an animal can produce only at the expense of its own health.

As a result of considerable experimental work extending over many years, scientists have been able to calculate the amounts of various feeds that are needed to keep an animal alive, without gaining or losing weight and without producing anything. With this as a starting point, they have figured out how much in the way of additional feeding values the ration needs to provide materials for making meat, milk, eggs and wool.

It is this second step in arriving at what is enough that determines how profitable the ration will be. Production profits start after maintenance needs have been met. Remember, however, that enough is enough only when it supplies *all the right materials in the right proportions.*

BALANCE

A truly "balanced" ration is one in which all the nutritional elements known to be needed are present in the amounts and proportions calculated to produce the best results for the purpose intended. Since the earlier knowledge was restricted to the major classes of elements, many rations are referred to as "balanced" rations, where only a quantitive ratio of Protein, Carbohydrates and Fat has been considered. In the light of the newer nutritional findings, such rations have taken only the first step to complete productive balance.

Surprisingly enough, however, the vast majority of ordinary farm rations fed today do not provide even this first step toward balance. The almost universal tendency is to feed too heavily on the carbohydrate side. The reason for this is that farm grains and most farm roughages are extremely low in protein. In trying to depend almost entirely on what is raised on the farm, the average farmer is feeding a one-sided ration that not only limits his profits, but actually increases his feed costs. The use of a high protein supplement containing proper mineral and adequate vitamins, with farm grains and roughage brings about a "balance" that is so essential if home-grown feedstuffs are to be used to best advantage.

VARIETY

As we have learned more about the differences that exist between feeding elements of the same class, variety has taken a new meaning and a new importance. Just as we recognize differences in vitamins and in minerals, we find widely varying properties among members of the Protein, Carbohydrate and Fat groups. Variety in the ration helps to protect against possible deficiencies within these classes.

In attempting to gain variety, it must be understood that this means choosing not alone different feedstuffs, but feedstuffs that will contribute different types of food substances. Combining two different grains in a ration may represent a feeding improvement, over either one used alone. Grains are so nearly of the same composition, particularly as to the types of protein they contain, that a mixture of half a dozen grains would not necessarily provide the needed variety of proteins. That is why Protein-rich Supplements have proved themselves of such value to the feeder. These supplements supply an assortment of most of the essential Animo-Acids that are missing in farm grains. Supplements also provide a variety in the carbohydrate and fat groups.

PALATABILITY

If the animal is to consume the amount of feed necessary for the gains or production expected of it, the ration must be palatable—it must appeal to the taste and stimulate the appetite. As a general rule animals show a preference for the feeds that are likely to do them the most good. Stockmen know from experience that palatability of feeds is beneficial because they have seen desirable effects such as slickness of appearance, general thriftiness and improved performance.

DIGESTIBILITY AND REGULATORY ACTION

Not all of a feed or ration can be converted by the digestive system into productive use. What is indigestible is passed off. "ViGoR" Supplements, because of their high ratio of total digestible nutrients, are especially valuable in improving the digestibility of a ration. Also a feeding ration should be self-regulatory—keeping the bowels of the animal functioning normally and eliminating the necessity of unusual medication and unnatural attention. The ingredients in "ViGoR" Protein and Mineral Supplements have a healthful effect on the entire digestive system and are gently regulative in their action.

VITAMINS AND MINERALS

The complete productive balancing of a ration goes beyond the proper proportioning of proteins on the one hand and carbohydrates and fats on the other. It must take into consideration the types of Proteins, Carbohydrates and Fats, and it must include a closely figured sufficiency of each of the essential vitamins and minerals.

COMPOUNDING RATIONS

The compounding of a ration can be done by numerous formulas, each of which will show the proper theoretical balance between protein, carbohydrates and fat, and yet, in performance value, the final rations may vary so widely as to spell the difference between profit and loss. It is the attention paid to such minor differences as characterize one grain as compared with another—or one vitamin source compared with another, that distinguishes the successful feeder.

In the feeding rations presented in other sections of this booklet, great care has been taken to provide complete balance in all the known elements of good feeding for profitable mixed farming.

The "VIGOR" Way for Profitable HOG FEEDING

Profit in pork raising represents the difference between cost of production, including overhead, and selling price. The only way to boost profits is to widen this spread. To accomplish this, the hogman must base his operations on these three important principals:—

1. *Producing Weight at Low Cost.*—For low cost gains, rations must be well balanced and high in Protein. Farm grains by themselves are high cost pork makers.
2. *Selling on Most Favourable Market.*—A wise farrowing schedule, plus speedy development and quick finish, puts pigs on the market when pigs are scarce. Spreading the farrowing dates throughout the year is desirable.
3. *Getting More Pork per Sow.*—The more finished market hogs you can produce per sow per year, the lower will be your overhead charge per hundredweight.

BREEDING AND CARE

Gains in themselves are produced by feeding, but profits in the hog lot will be greater if a good deal of attention is given to the selection and building up of the breeding herd. Breeders should be chosen for their prolificacy and for their ability to produce hogs of the preferred market type—early maturers and thrifty feeders. Careful management of the breeding herd is likewise important. Desired farrowing dates must be anticipated in the breeding schedule, and proper care must be given sows when litters are due. Needless to say, dry, draft-free housing is likewise important if litters farrowed in the early spring or late fall are to get to market within the profitable time of 180 days or less.

FEEDING HINTS

In feeding hogs, one thing that the feeder must remember is that, while swine have a great capacity for growth, they have a very limited digestive system. For this reason, concentrated feeds must bear a good deal of the feeding load and roughages and other bulky feeds can be used only sparingly. This makes it necessary to balance hog rations with the greatest care in order to make sure that the concentrated feeds will provide all the proteins, vitamins and minerals that are missing from farm grains.

With quality, flavour and firmness of pork receiving more and more attention in the markets today, feeders are finding it profitable to watch their feeding from this point of view. They are finding that the famous "ViGoR" schedule of feeding, which has given them the fastest and shortest market feeding calendar, is also the most dependable feeding combination for putting on good quality, lean, well-grained and pure-flavoured pork.

METHOD OF FEEDING

A self-feeding plan has proved itself the best system of feeding hogs. The palatability of "ViGoR" Protein and Mineral Supplements mixed with freshly ground grains, stimulates total feed consumption, insuring the ingestion of large enough quantities of balanced food materials for rapid gain in weights.

Brood sows must receive enough nourishment, not only to maintain their bodies, but to support their developing litters as well, and a bred gilt needs extra feed for her own growth in addition to what is needed by her litter.

Some fattening during pregnancy is desirable, since the reserve of flesh improves milk production. Excessive fat, however, must be avoided, since it makes for a lazy sow and a poor litter. Exercise your sows. One method is to put the feeding trough at some distance to the pen.

Protein is an absolute necessity during the gestation period, and the ingredients should be gently regulatory. In addition, the sow should receive adequate minerals and a liberal supply of vitamin E. "ViGoR" Protein and Mineral Supplements are impregnated with wheat germ oil of the best quality. Vitamins A and D are essential and the correct amount of these are aids in farrowing as well as health-giving prerequisites to the litter.

Every effort should be made to see that the sow is in good condition at farrowing time. Feverishness should be reduced, and constipation avoided. The use of a mild laxative slop two or three days before the litter is due is helpful. Equal parts of bran, shorts, ground oats with a little linseed oil cake meal may be used. Cut the feed one-third when she enters the farrowing pen, and see that she gets plenty of water. Give her no feed the first twenty-four hours after farrowing. The ration suggested above may be continued for a few days after that. By the end of the first week, the sow is ready to work gradually into the regular ration.

GIVING PIGS A GOOD START

The cheapest gains of any period in the life of the pig are attained by full feeding the sow when she is nursing. Plenty of proteins and minerals supplemented with wheat germ oil will insure good milk production and keep the sow in condition if she is to be bred. Pigs will eat a supplementary feed at about two to three weeks of age, and should be provided with a good pig meal or starter ration in a creep where the sow can't reach it. The same ration should be used throughout to weaning, and then gradually changed over to the regular growing ration with grain and supplement. As the pigs grow, less supplement is needed to balance a proper ration.

SEPARATING OUT THE BREEDERS

Pigs to be used for breeding purposes should be separated from the market hogs soon after weaning and fed for good size and strong frame. They should be grown more and fattened less. The herd boar, especially a young one, requires plenty of protein, minerals and green feedstuff in his ration if he is to be of full value as a sire. Both sows and boars need a ration not only rich in protein, but supplemented liberally with vitamin E through cold pressed wheat germ oil.

ViGoR FEEDS

"ViGoR" Protein and Mineral Supplements are fortified with vitamin-tested fish oil and wheat germ oil. They are a blending of many protein-rich feedingstuffs carrying the essential Amino-Acids required for health, growth, and reproduction. Separate pamphlets on these different blended supplements are available from any plant of Burns & Co. Limited.

Here are the "ViGoR" Supplements to blend with your grains:

"ViGoR" Pig Starter Protein and Mineral Supplement—for Piglets.

"ViGoR" Brood Sow Protein and Mineral Supplement—for Brood Sows.

"ViGoR" Hog Utility Protein and Mineral Supplement—for Growing and to Finish Hogs.

"ViGoR" Pig Starter for hogmen who cannot grind their grain fine or who have poor quality grain.

Laboratory Testing of Feeds

Our laboratory is conveniently placed to receive samples of all products manufactured. Samples are scientifically taken as each batch is mixed, so that analysis can be made immediately. All feed manufacturers are required to set up quantities of Protein, Fibre and Fat with the Federal Government before sale is permitted. In the case of Concentrates with Minerals, the Department of Agriculture, at Ottawa, require a guarantee of the Calcium, Phosphorus and Mineral elements. With this systematic analysis in our own laboratories there is no guesswork. The analysis is completed before the mix is warehoused for sale. In this manner the farmer is guaranteed a product which conforms in reality with the guarantees required by the Feeding Stuffs Act of Canada.

The Laboratory is under the direction of a qualified chemist, who has specialized in the Analysis of Food Products as well as Feeds. The equipment is the most modern in Western Canada. Visitors to the Laboratory are heartily welcomed.

NOTES ON SANITATION AND DISEASE

In the short space available in such a booklet as this, it is impossible to give full information on all diseases.

It is suggested that you consult your veterinarian regarding diseases which affect the herd. He has been trained in this special branch of animal husbandry and should be the most competent authority in the community. The Federal and Provincial Departments of Agriculture have issued many informative pamphlets, and our Agricultural Colleges and Universities have contributed very valuable and practical experimental work on matters pertaining to animal nutrition and control of disease. They have all done a grand job and every farmer should avail himself of the many booklets issued by these agencies.

SANITATION

Sanitation is an important part of herd management. It may be defined as the application of the necessary health-conserving and disease-preventing measures to the care, management and feeding of hogs. Close confinement and crowded quarters lower the resistance to disease; and filthy feeding floors and watering places favour the entrance of disease-producing germs into the body of the animals. Young pigs do not thrive well when filth is allowed to pile up in sleeping quarters, allowed to burrow in straw stacks, or when the bed is wet, filthy and dusty.

Manure and other litter should not be allowed to accumulate in hog houses and yards. The best way to clean up the yard is to remove all litter and rubbish and then plow it and sow it to wheat, oats, rape or some forage crop.

The two most important sanitary features in the hoghouse are the ventilation and the floors. Ventilation without floor drafts is very important during cold weather. Unless the floor can be easily cleaned, the house usually becomes filthy. A concrete floor, provided with drains can be easily washed and disinfected. Stiffness and lameness, which occur in hogs kept in the hoghouse result from confinement. This condition can be corrected by letting hogs go outside and by a proper feeding programme.

Water from a good well, given to hogs in clean troughs assures a safe water supply. It would be well to know the analysis of the water supply. Small streams usually receive sewerage from other hog lots and are common sources of disease. Pools are little better than cesspools, as they receive surface drainage from the hog lot and pasture. They should be filled in with earth in order to prevent hogs from using them for drinking and wallowing places.

The first step in disinfecting a hoghouse is to thoroughly clean the walls and floor. A three per cent water solution of some creosote compound may be sprayed or sprinkled on the cleaned surface. Sufficient dehydrated lime may be added to the disinfectant to make a thin whitewash. Thus the person, who is applying the disinfectant, will detect any part that has been missed. Another effective disinfectant is one pound of lye to 10 to 20 gallons of water. Earth floor should be removed to a depth of two or three inches and replaced with clay or gravel.

The high death rate from infectious diseases can not be lowered without the full co-operation of farmer, breeder and dealer. The practice of strict sanitary methods by all will undoubtedly result in a much more profitable industry.

CALGARY RAIL GRADING

Effective July 28th, 1942

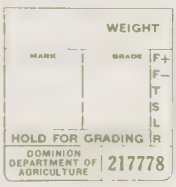
(Subject to Change Without Notice)

Grade	Dressed Weight	
A	140-170	Prem. 1.00 each
B1	135-175	Basic Price
B2	130-134	Disc. .50 each
B2	125-129	" 2.50 "
B3	176-185	Basic Price
C1	135-175	Disc. 1.50 each
C2	130-134	" 2.00 "
C2	120-129	" 2.50 "
C3	176-185	" 2.00 "
D1	135-175	" 2.00 "
D2	120-134	" 2.50 "
D3	176-185	" 2.50 "
Heavies	186-205	Disc. 1.50 Cwt.
Ex. Heavies	206-234	" 2.00 "
Ex. Heavies	235-up	" 2.50 "
Ridglings		" 2.50 each
No. 1 Sows	All Wgts. R.G.	Price 11.50
No. 2 Sows	All Wgts. R.G.	Price 11.00

E. Hogs and Stags Optional, According to Value

NOTE:—All hogs graded as Ridglings will be discounted $2.50 each from the official grade.

BURNS & CO. LIMITED



Reproduction of Rail Grading Inspection Cards referred to on page 42.

HOG DISEASES

ANAEMIA IN YOUNG PIGS

Anæmia occurs in pigs that are kept inside the farrowing house during the first few weeks of their life, or in those that, because of unfavourable weather conditions, do not go outside and follow their mother around the pasture lot. Most of the loss occurs in late winter and early spring.

The difference in the behaviour and appearance of pigs that have anæmia and pigs that are normal is readily recognized. Anæmic pigs lack vigor and stay in their beds more than normal pigs. When exercised, their breathing is laboured and they become greatly fatigued. Thumps and white scours are prominent symptoms of well developed cases of anæmia. Paleness of the skin over the ventral surface of the body is quite noticeable. Pigs that recover are usually unthrifty and stunted, and their resistance to parisitic disease is lowered. Necrotic enteritis, bullnose, pneumonia and heavy infestation with lung and intestinal worms occur in herds severely affected with this nutritional disease.

An impoverished condition of the blood or a deficiency in the number or quality of the red blood cells, characterizes anæmia in young pigs. Careful study will show pale thin blood, pale muscles, large and dilated heart, mottled greyish coloured liver and large spleen. An early diagnosis is essential to combat this disease successfully.

It is possible that the ration fed gilts and brood sows during the gestation period may influence the hemoglobin reserve in the new-born pigs. A suitable ration should be fed. The sleeping quarters should not be crowded and plenty of clean range allowed. It has been recommended by many nutritional experts that all piglets should be given a dose of reduced iron when ten days old and repeated ten days thereafter. "ViGoR" Pig Starter has proved invaluable for such piglets.

NUTRITIONAL DISEASES

Necrotic enteritis in swine is a disease of the digestive tract most frequently occurring in pigs less than six months old, but pigs of any age may be affected. The disease is attributed to micro-organisms which may be called "secondary invaders." Necrotic enteritis is one of the most important causes of loss both to commercial swine production and on farms where only a few swine are kept.

The first indication of the disease is usually a profuse diarrhœa, which is followed rapidly by lack of appetite, loss of condition, roughened skin and hair-coat, apparent abdominal pain, anæmia and frequently death. In the weakened condition, complications frequently occur.

Post-mortem shows superficial necrosis (tissue death) of the larger intestine, and, in severe cases, cessation of the lymph follicks which develop nodules or buttons located throughout the entire length of the intestine.

It is claimed by many authorities that this disease and others of necrotic condition such as bullnose, ulcerations of the gums and lips and other parts of the face and head, develops primarily as a result of nutritional deficiency. It has been suggested that the disease, infectious necrotic enteritis, is a secondary complication caused by intestinal invasion of certain virulent organisms after symptoms of a deficiency of nicotinic acid (now known as niacin) have developed in the pig. "ViGoR" Hog Breeder Protein and Mineral Supplement and "ViGoR" Pig Starter carry a high "value" of this important factor of the vitamin B complex.

PARASITIC DISEASE

Many skin diseases, causing poor condition and unthrifty hogs, are caused by lice and parasites, and, to counteract the ravishes, the farmer should be watchful at all times. Cleanliness is emphasized. Hogs should be scrubbed with a light disinfectant at intervals. Skin diseases are hard to correct if treatment is delayed. Prevention is better than cure.

GESTATION TABLE

Date of Service	Date Animal is Due to Give Birth.			
	MARE (335 days)	COW (280 days)	EWE (148 days)	SOW (118 days)
January 1	December 1	October 7	May 28	April 23
January 8	December 8	October 14	June 4	April 30
January 15	December 15	October 21	June 11	May 7
January 22	December 22	October 28	June 18	May 14
January 29	December 29	November 4	June 25	May 21
February 5	January 5	November 11	July 2	May 28
February 12	January 12	November 18	July 9	June 4
February 19	January 19	November 25	July 16	June 11
February 26	January 26	December 2	July 23	June 18
March 5	February 2	December 9	July 30	June 25
March 12	February 9	December 16	August 6	July 2
March 19	February 16	December 23	August 13	July 9
March 26	February 23	December 30	August 20	July 16
April 2	March 2	January 6	August 27	July 23
April 9	March 9	January 13	September 3	July 30
April 16	March 16	January 20	September 10	August 6
April 23	March 23	January 27	September 17	August 13
April 30	March 30	February 3	September 24	August 20
May 7	April 6	February 10	October 1	August 27
May 14	April 13	February 17	October 8	September 3
May 21	April 20	February 24	October 15	September 10
May 28	April 27	March 3	October 22	September 17
June 4	May 4	March 10	October 29	September 24
June 11	May 11	March 17	November 5	October 1
June 18	May 18	March 24	November 12	October 8
June 25	May 25	March 31	November 19	October 15
July 2	June 1	April 7	November 26	October 22
July 9	June 8	April 14	December 3	October 29
July 16	June 15	April 21	December 10	November 5
July 23	June 22	April 28	December 17	November 12
July 30	June 29	May 5	December 24	November 19
August 6	July 6	May 12	December 31	November 26
August 13	July 13	May 19	January 7	December 3
August 20	July 20	May 26	January 14	December 10
August 27	July 27	June 2	January 21	December 17
September 3	August 3	June 9	January 28	December 24
September 10	August 10	June 16	February 4	December 31
September 17	August 17	June 23	February 11	January 7
September 24	August 24	June 30	February 18	January 14
October 1	August 31	July 7	February 25	January 21
October 8	September 7	July 14	March 4	January 28
October 15	September 14	July 21	March 11	February 4
October 22	September 21	July 28	March 18	February 11
October 29	September 28	August 4	March 25	February 18
November 5	October 5	August 11	April 1	February 25
November 12	October 12	August 18	April 8	March 4
November 19	October 19	August 25	April 15	March 11
November 26	October 26	September 1	April 22	March 18
December 3	November 2	September 8	April 29	March 25
December 10	November 9	September 15	May 6	April 1
December 17	November 16	September 22	May 13	April 8
December 24	November 23	September 29	May 20	April 15
December 31	November 30	October 6	May 27	April 22

Table based on average gestation period. Due dates subject to variation.

PERIODS OF HEAT IN FARM STOCK

Length of Heat	MARE 3—15 Days	COW 16—19 Hours	EWE 1—2 Days	SOW 1—5 Days
Intervals Between Heat	2—4 Weeks	16—24 Days	12—21 Days	18—24 Days

Inventory of Livestock

No.	Description	Price	Value		No.	Description	Price	Value	
	HORSES					SWINE			
	DAIRY CATTLE					SHEEP			
	BEEF CATTLE					POULTRY			
	OTHERS					OTHERS			
	VALUE					VALUE			

Inventory of Grain, Seed, Feed, Supplies, etc.

Inventory at Beginning of Year				*Inventory at End of Year*			
Quan.	Description	Price	Value	Quan.	Description	Price	Value
	Grain in Storage, Not Sold				**Grain in Storage, Not Sold**		
	WHEAT				WHEAT		
	OATS				OATS		
	BARLEY				BARLEY		
	OTHER				OTHER		
	Grain Held in Granary for:				**Grain Held in Granary for:**		
	SEED, FEED, ETC.				SEED, FEED, ETC.		
	WHEAT				WHEAT		
	OATS				OATS		
	BARLEY				BARLEY		
	OTHER				OTHER		
	Hay and Other Feeds				**Hay and Other Feeds**		
	Details on separate sheet.				Details on separate sheet.		
	Implements				**Implements**		
	Details on separate sheet.				Details on separate sheet.		
	TOTAL INVENTORY				TOTAL INVENTORY		

FARM EXPENSES

The columns are to record the expenses of the farm as a business, but no personal or living expenses should be entered. Money paid for equipment, for new buildings, repayment of loans, etc., is regarded as capital expenditure, and is not allowed by Income Tax authorities as deductions for expenses. Such items can be recorded here, but omitted when you make up summaries.

Date	Item	Amount		Date	Item	Amount	
					Brought Forward		
	Forward				*Forward*		

Farm Expenses

Date	Item	Amount		Date	Item	Amount	
	Brought Forward				*Brought Forward*		
	Forward				*Forward*		

Farm Expenses

Date	Item	Amount	Date	Item	Amount
	Brought Forward			*Brought Forward*	
	Forward			*Forward*	

Farm Expenses

Date	Item	Amount	Date	Item	Amount
	Brought Forward			*Brought Forward*	
	Forward			TOTAL	

POULTRY RATIONS AND RIBOFLAVIN

During the past two years many nutritional experts have been experimenting with Vitamin G, now known as Riboflavin, and after careful exhaustive laboratory and farm tests have definitely stated that this element is necessary for hatchability, growth and health of poultry. "Standards" of requirements are now known for Breeders, Baby Chicks and Growing Pullets.

In line with our usual practice our Poultry Protein and Mineral Supplements and Balanced Rations have been submitted to two eminent animal nutrition laboratories for analysis. Their findings show that "VIGOR" Breeding Supplements, "VIGOR" Chick Starter, and "VIGOR" Chick Growing Feeds have carried sufficient of this element. Probably this is the "factor" (along with the wide variety of proteins used) which has given "VIGOR" Poultry Feeds their prominent position to-day.

But we are not content with success—we must do even better and better—so that poultrymen can measure up to the requirements asked for war-time production of eggs and meat, so far as feeds are concerned. We are adding a fortification of Synthetic Riboflavin to all the "VIGOR" Poultry Mixes to make doubly sure that results from high pressure practices demanded of poultry for war requirements will not impair the hatchability, growth and health of next season's chick crop. Our "VIGOR" Mixes contain the same good quality ingredients, high in essential proteins, minerals and vitamins for which they are famous, in addition to recognized fortification requirements of Vitamins A-D-B-E and G.

When science proves that it is economically sound to fortify feeds — "VIGOR" WILL BE FORTIFIED. "VIGOR" has shown the way—

First in the West to fortify Poultry feeds with Cold Pressed Wheat Oil—Vitamin E (reproductive factor).

First in the West to fortify Poultry feeds with Clotrate Dry 400 — Stabilized Vitamin D Powder.

First in the West to fortify Poultry feeds with Manganese Sulphate for "slipped tendons", and now

A leader in fortifying Poultry feeds with Riboflavin—Vitamin G.

BURNS' CASH FOR FARM PRODUCTS POLICY

Keeps Ready-Cash Flowing Into Your Community.

Most of the incomes in your community are derived directly or indirectly from the sale of farm products. Apart from grain, the chief of these are cattle, hogs, sheep, poultry, eggs, milk and cream. Of these latter, Burns & Co. Limited purchases tremendous quantities during each and every week of the year . . . and, for it all, pays cash or immediately cashable checks.

The Company has followed this policy throughout its entire history. For more than fifty years its activities have kept ready-cash flowing into the pockets of the agriculturalists of Western Canada.

FARM INCOME

The columns are to record all money received from farm operations. Enter as soon as received all moneys from grain sales, sales of live stock, cream checks, eggs and poultry sold. Eggs or other produce traded should be valued and the amount entered similar to cash, but write in the word "traded". Money borrowed or money received for sale of capital assets does not constitute farm income. They can be recorded here, but should not be included in making up statement of Income and Expense. Advances on grain by elevator companies, etc., are treated as part of Farm Income.

Date	Item	Amount		Date	Item	Amount	
					Brought Forward		
	Forward				*Forward*		

Farm Income

Date	Item	Amount	Date	Item	Amount
	Brought Forward			*Brought Forward*	
	Forward			*Forward*	

Farm Income

Date	Item	Amount	Date	Item	Amount
	Brought Forward			*Brought Forward*	
	Forward			*Forward*	

Farm Income

Date	Item	Amount		Date	Item	Amount	
	Brought Forward				*Brought Forward*		
	Forward				*Forward*		

Farm Income

Date	Item	Amount		Date	Item	Amount	
	Brought Forward				*Brought Forward*		
	Forward				TOTAL		

Crop Record for Year

Crop	Acres	Date of Seeding	Date of Harvest	Yield Per Acre	Notes
WHEAT					
OATS					
BARLEY					
OTHER CROPS					

Daily Egg Record for Year

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
TOTAL												

Daily Milk and Cream Record

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
TOTAL												

Summary of Egg Record and Milk and Cream Record

EGG RECORD SUMMARY

Total Number of Eggs

Number of Eggs Sold

Number of Eggs Used

Value of Eggs

Highest Price

Lowest Price

Average Price Received

Number of Birds at Beginning of Record

Number of Birds at End of Record

Number of Birds Culled and Sold

Mortality

MILK AND CREAM RECORD SUMMARY

Value of Milk Sold During Year

Value of Cream Sold During Year

Value of Butter Sold During Year

Average Price Received for Butter

Value of Dairy Herd Sold

Value of Dairy Herd Purchased

Value of Dairy Stock Beginning of Year

Value of Dairy Stock End of Year

Cost of Feed Bought

Value of Farm-grown Feed Consumed

Stock Breeding Record

(Gestation Periods, See Page 13.)

Date Bred	Name, Number or Description of Animal	Sire Used	Date When Due	Notes

Livestock Changes on Farm

Date	Record of Additions and Losses	Value

Record of Hired Labour

Name	Date Started	Date Left	Rate of Wages and Notes

Wages Paid

Date	Name	Particulars—*Goods Purchased, Advances Made.*	Amount	

Threshing Record

Date	Place	Hours	Rate per Hour or per Bushel	Kind of Grain	Bushels	Notes

Summary of Threshing Expenses

Rate per Hour or Per Bushel	Number of Hours or Number of Bushels	Kind of Grain	Amount	

Other Costs of Hired or Own Threshing

Labour		
Oil		
Fuel		
Repairs		
Other		
Total		

Summary of Farm Operations for Year

INCOME OF FARM (Including Value of Produce Traded)			CASH EXPENSES ON FARM (Do Not Include Personal Living Expenses)		
Sale of Crops	$		Wages Paid	$	
" " Livestock			Cost of Boarding, Labour (estimated)		
" " Eggs and Poultry			Repairs to Machinery		
" " Dairy Products			Feed, etc., Purchased		
Other Farm Sales			Livestock Purchased		
Deduct Income from Sale of Crops of Previous Year (if any)			Taxes Paid on Farm		
Actual Income for Year's Operations			Interest Paid		
Add to Above Value of Stock Still to be Sold			Cash Rent Paid		
Total Income for Year (If Crop Sold at Present Prices)			Paid for Threshing		
If Increased Stocks of Feed Grains Carried Over on Farm, *Add* Value of Increase (*Deduct* if Decrease)			Supplies Purchased		
Add Value of Net Increase of Livestock During Year			Other Cash Expenses		
Total Value of Year's Production	$		Gross Cash Expenses of Farm for Year		
(*This amount, which includes estimates of production not yet sold, can only be an approximation*)			*Deduct* from above any payments included covering expenses of previous years, such as back taxes or interest paid		
			Add to above, items still unpaid arising from year's operations		
			Gross Cash Expenses Due from Year's Operations		
			Add Depreciation During Year of Machinery and Buildings (see below)		
			Cost of Year's Farm Production	$	

DEPRECIATION ALLOWABLE (*Subject to Change*)

Brick and Stone Buildings	2½% of Original Cost
Frame Buildings	10% of Original Cost
Machinery	10% of Original Cost
Motor Trucks and Autos Used for Farm Only	25% of Cost First Year
Motor Trucks and Autos Used for Farm Only	20% of Cost on Later Years

Grain Sale Record

Date	Cash Ticket or Car No.	Bushels	Pounds	Grade	Price per Bushel	Amount		Notes

Burns'

VIGOR

REGISTERED

The "VIGOR" Way

FOR PROFITABLE POULTRY FEEDING

"VIGOR" Poultry and Turkey Feeds are rich in proteins, vitamins, minerals, carbohydrates and fats necessary for life growth and production. The amount of protein alone is not the measuring stick used in determining the value of "VIGOR". They are balanced with reference to vitamins and minerals, as well as the *amount* and *kinds* of proteins, carbohydrates and fats.

There are no drugs or tonics used in "VIGOR" Poultry and Turkey Feeds—or anything of a medicinal character to act as a stimulant. Clean ingredients of highest quality properly balanced and mixed furnish the nutrients necessary for successful poultry feeding.

"VIGOR" Feeds are, however, fortified with stabilized potassium iodine, pure manganese sulphate, double-tested vitamin fish oil and cold-pressed wheat germ oil. The vitamins "B" (including pantothenic acid) and "G" (riboflavin) are in abundance. The analysis is ample for all requirements according to standards set by poultry nutritional authorities.

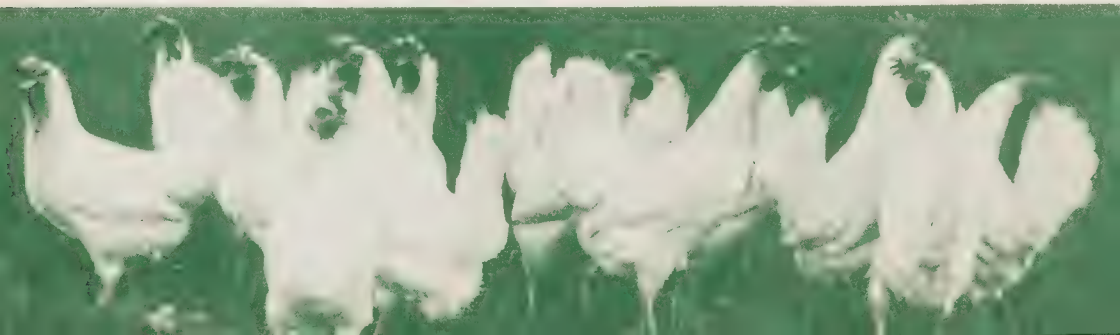
The "VIGOR" formulæ are based on the principal that feed must contain characteristics for the purpose intended. Therefore, there is a feed for the breeding stock (male and female), for the chick (baby and grower), for the layers (whether in house or battery confinement).

The increasing large volume of "VIGOR" Poultry and Turkey Feeds testify to the quality of these feeds, and the quality must be in every mix because every mix is laboratory tested.

After the Chick—
Then what ?

The day-old chick is only the start of the poultry production for the year. What will the finish be? Live chicks or high mortality? Healthy birds or diseased? Rapid growth and development, or small, late-maturing pullets? Eggs during fall and winter months of highest prices, or just during spring and summer months of lowest prices? Economical results or just results? Profit or loss?

While the feed that is furnished will be one of the determining factors—for feed represents from 50% to 60% of the yearly financial outlay—in making that profit, it is most noticeable that good Management, Brooding, Rearing, Culling, Sanitation are paramount to success.



POULTRY MANAGEMENT

BROODER HOUSE HINTS

If portable, move to new and unused ground that is well drained, or till the soil around it, and plant to a quick growing crop of oats, rye, rape, etc.

Clean out and scrub house, removing all dirt and dust that may carry disease, then spray with a good disinfectant.

Be sure there are no openings in the floor or walls or around windows that allow drafts on the chicks. Check ventilators and see that they are working properly.

After putting up the brooder stove, a circle of hardware cloth, baby chick wire, or heavy roofing paper should be run around the hover to keep the chicks from straying away from the heat until they know where it is. Make the circle large enough so they have a chance to get away from the heat far enough to be comfortable and keep enlarging it after a few days.

Round out corners of the brooder house with chicken wire or heavy paper to reduce possibilities of piling up in a corner.

Have the house heated and the stove regulated so it maintains a temperature under the hover of 98° to 100° before chicks arrive.

Have a range of 10° to 20° or more between edge of hover and wall for chicks to range in and have a chance to get away from heat if they desire to.

Many poultrymen keep their chicks entirely too warm after they are two or three weeks old (or from the time they start growing feathers). Chicks have a better appetite, grow and feather faster, and start to roost at an earlier age when accustomed to lower temperature.

Reduce temperatures gradually and continuously to produce a hardy, sound growth, and eliminate brooding problems such as picking and cannibalism.

Have plenty of feed hoppers and drinking fountains where they are handy for the chicks.

CARE IN REARING

Do not crowd your brooder house. It is better to be successful with fewer chicks than fail with too many.

Keep lowering the temperature to produce best results.

Provide sufficient ventilators without any direct draft on chicks to keep air fresh. This is very important.

Keep sufficient humidity so that chicks are comfortable. Get chicks out as soon as possible.

Overcrowding, lack of ventilators, insufficient humidity are causes of toepicking and cannibalism.

If troubled with toepicking or cannibalism check your temperature to see if it is not too warm and your chicks are uncomfortable. Check ventilators and increase humidity by keeping water near heat to evaporate.

Treat any chicks that have been picked with pine tar or roofing tar. Give them little pieces of green stuff, potato peelings or onion rings to play with several times a day, and, if necessary, darken the windows.

Correcting the cause of this habit and giving them something to keep them busy usually breaks it up. Break the habit at once if it gets started. Allow more space for range.

Provide low roosts at end of second week, and get them in the habit of going on the roosts. Raise the roosts gradually as they become older.

Provide plenty of shade during hot weather. Quarters which are cool and airy during hot weather are desirable. Hot and poorly ventilated roosting quarters retard development and delay production.

At all times provide plenty of clean fresh water. Drop a flake or two of permanganate of potash in the water regularly. A few drops of coal oil in the water may save ravages of colds.

Plenty fresh water at all times. So much depends on water for growth and production as well as health.

FEEDING AND SANITATION

Keep "ViGoR" Chick Starter (or "ViGoR" Turkey Starter) mash in hoppers or on paper in front of the chicks at all times as soon after chicks are hatched or as reasonably possible. Do not wait until the chicks are 48 to 72 hours old as has been recommended by many in the past They will absorb their egg sacks when fed on "ViGoR" Chick Starter at 24 hours instead of 72 hours. Do not be afraid of overfeeding. Do not feed liquid milk with "ViGoR". Water (with the chill removed) is the best drinking material with this starter which carries a large content of buttermilk powder.

Remember as your chicks get older and larger it takes more feed which requires more hopper space and water fountains if each chick is to have the opportunity to consume all it can make use of to live and grow on. Do not limit your chicks in consumption because of limited feeding space at any time. Lack of feeding space increases your costs of growth and causes your chicks to be uneven in growth and development.

At the end of two weeks begin feeding chick scratch—very gradually at first, increasing slowly.

If you have not purchased sexed chicks, separate the cockerels from the pullets as soon as possible. They will both develop better separately. To get the cockerels finished quickly with good fleshing, feed "ViGoR" Rapid Growth Broiler Mash. This mash should be fed Broilers (if you go in for this class of feeding) from the very beginning. Write for special pamphlet on broiler rations.

At the end of the fifth week start mixing "ViGoR" Chick Growing Ration with the "ViGoR" Chick Starter, taking about two weeks to complete the change. Continue with "ViGoR" Growing Ration until the pullets are 10% to 15% in the lay. During the growing period increase the scratch grains fed.

To avoid disease, keep houses, hoppers, drinking fountains and litter clean and disinfected. Provide plenty of range on clean soil which is well drained. Put six to eight inches of sand or gravel at passageway out of the house where many chicks travel over the ground.

CULLING

The time to start culling is right from the time the chicks are a day old until maturity. Week-old chicks that are very slow in growing compared with the balance of the flock should be destroyed as it indicates poor vitality. This makes them susceptable to any disease, and they may infect the flock. Post-mortems of such chicks may disclose many conditions preventing proper maturity. Judge your future layers by their ability to show rapid maturity which indicates an important necessity—vitality.

A hen that has the ability to be classed as a profitable layer, according to culling, must have a digestive tract at least six times the length of the body. In culling, this is determined by measuring the width of the back, length of the back, and length of the breast bone. A wide back and long carriage indicates the bird has a large digestive tract. A bird with a narrow back and short carriage indicates she has a small digestive tract and cannot consume sufficient feed to warrant a profitable egg production. The eyes should be bright and outstanding and round. The head should be alert. A beefy head seldom has a round eye. The beak should be short and not too much of a curve.

The bleaching of the yellow colour which accompanies egg production starts at the eye ring, ear lobe, vent, beak and shanks, continues on down the body, and the last part of the bird to bleach out are the shanks. Non-producing birds sometimes show bleaching. This is usually caused by nutritional deficiency caused by parasite infestation.

CULLING THE YOUNG STOCK

KEEP.	SELL OR KILL.
Strong chicks.	Weak, stunted, half naked, deformed chicks.
Strong, thrifty growing chicks.	Weak, unthrifty or deformed stock.
Rapid developers.	Slow developers.
Cockerels best for breeders.	Sell surplus cockerels.

SELECTING PULLETS FOR WINTER LAYERS

KEEP.	SELL.
Development—Fairly rapid.	Slow.
Constitution—Strong.	Weak.
Laying—By November 10th.	Late layers.
Heads—Well developed fine, feathers.	Poorly developed, long, slender.

SELECTING HIGH LAYERS FOR BREEDERS

KEEP.	SELL.
Constitution—Strong.	Weak.
Time of molt—September or later.	June to Sept.
Duration of molt—Brief.	Extended.
Legs—Bleached.	Yellow.
Beak—Bleached.	Yellow.

JUDGING RATE OF PRODUCTION

HIGH RATE.	LOW RATE.
Keel—Slopes downwards.	Slopes upward.
Pelvic bones—Tips thin, point straight out.	Tips thick, curved in.
Capacity—Four to five fingers.	Two fingers.
Abdomen—Soft, pliable, dilated.	Fat hard, contracted.
Rump—Broad, with curved back.	Narrow, cramped.
Skin—Soft, thin, loose, silky.	Thick, dry underlaid with fat.

JUDGING FOR PRESENT PRODUCTION

GOOD LAYING HEN.	POOR LAYING HEN.
Vent—Large, dilated, oblong, moist.	Small, contracted, round, dry.
Pelvic bones—Flexible and wide apart.	Rigid, close together.
Comb—Large, red, full and glossy.	Small, pale and scaley.
Wattles and ear lobes—Prominent, soft, smooth.	Inconspicuous, rough, dry.

JUDGING PAST PRODUCTION

LONG LAYING PERIOD.	SHORT LAYING PERIOD.
Vent—Bluish white.	Flesh coloured.
Eyelids—Thin and edges white.	Thick, yellow tinted.
Eyes—Prominent, keen, sparkling.	Listless, sunken.
Ear lobes—Enamel white.	Yellow tinted.
Beak—Pearly white.	Yellow tinted.
Face—Clean cut, sunken.	Full, well fleshed, yellowish.
Plumage—Worn, soiled, lifeless, close feathered.	Signs of moulting, loose feathered.

MAINTENANCE OF HEALTH

Maintaining the health of your flock is one of the most important duties. An intelligent understanding of the simpler, more common diseases, their symptoms, their prevention, and the treatment of disease when it has shown itself, should be understood by every poultryman. Learn to know your birds; study the diseases common in your neighbourhood; keep infection out of the henhouses.

Be on the outlook for the danger signals. Droopiness and listlessness on the part of the chicks or growing stock, a sharp unexpected drop in egg production, unseasonable moulting, unsatisfactory droppings and unusual behaviour are some of the sources of warning.

Cleanliness and regular periodical disinfection are necessary in maintaining poultry health. This applies both to premises and birds themselves. Parasites, germs and bacteria have a habit of lodging in remote corners, crevices and out - of - the - way places, and not out in the open. Therefore do a good job, and do it regularly when you disinfect.

Immediately isolate birds that appear to be sick. Analyze the trouble as quickly as possible, and give the balance of the flock such treatment as may be required to avoid the spread of the particular disease involved. Dispose immediately of badly infected birds (preferably burning them) and concentrate on the less severely sick in an effort to save them.

When your knowledge is limited and your diagnosis and post-mortem does not conclusively point out the trouble and treatment necessary, consult your Provincial Poultry Department. When submitting specimens be sure that your original letter is as complete as possible so that no delay is caused by lack of information.

TURKEYS ARE PROFITABLE

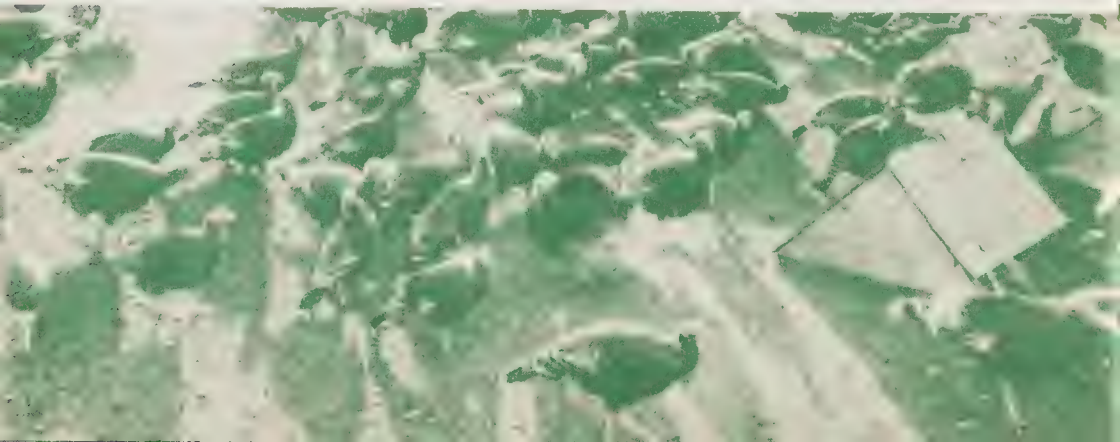
Turkey raising has been profitable as a result of better breeding, sanitation and improved feeds. Lower production costs and greatly improved quality are the results of intensive experimental work and increased consumption provides a better market.

It has been found advisable to raise turkeys separately from chickens and on ground which has not previously been used by chickens. Start with well-bred, vigorous poults, from stock where black-head, roup or other contagious diseases have not existed. Strict sanitation must be followed to be successful.

Poults should be placed in brooder houses and colony houses with wire floors to ensure sanitation and make cleaning and disinfecting easier. Be sure you do not crowd. Crowding can be prevented by providing good ventilation and even temperature. Temperatures should be 98 - 100 degrees to start and gradually lowered over a six to eight-week period. Provide plenty of mash feeders and drinking fountains. Allow at least one square foot of floor space per poult the first six weeks. Do not permit the poults to become frightened or stampeded.

Follow carefully the feeding plan with "VIGOR" Turkey Starter and "VIGOR" Turkey Growing Rations containing buttermilk powder and other high quality ingredients thoroughly blended and perfectly balanced in vitamins, proteins and minerals to ensure profitable feeding results.

Poults hatched out at home are ready for the first feeding in 48 hours. If poults are shipped in, they will be ready to be fed and watered on arrival. Leave the poults in boxes in a warm, darkened room until thoroughly quietened down. Supply fresh clean water with chill removed, being careful to use proper equipment to prevent poults from getting wet. It has been suggested that each poult be given water when removed from the box so that they know what it is.



For the first few days it may be desirable to put the mash on shallow dishes or paper; however, these utensils should never be allowed to get contaminated with droppings. As soon as possible feed the poults from boxes or troughs protected from chances of spoilage. Difficulty is often found in getting poults to start eating. One reason may be the habit young birds have of looking upwards. Attract their attention by picking up a little feed by hand and dropping it back into the boxes.

Be sure that each poult is getting its full share of "ViGoR" Turkey Starter to ensure uniform and healty growth. Scratch grains are not recommended until the birds are six weeks old.

When the birds are two or three weeks old, place low roosts in the brooder house about six inches from the floor, all at the same level and have the birds start to roost.

Start at the end of the seventh week to switch gradually to "ViGoR" Turkey Growing Rations. At this stage a little oyster shell and grit can be given the birds, but not before. Plenty fresh water, properly protected, is required at all times. By the tenth week they should be on a full growing ration and scratch grains can be gradually increased. While turkeys appear to be able to adjust the protein intake much better than poultry, nevertheless there is no doubt that most turkey raisers do not feed sufficient growing mash. The mash builds big frames thereby giving the birds the capacity to put on flesh and fat to make a good marketable product.

Two weeks before marketing a good finish can be put on the turkey by feeding a crumbly wet mash with "ViGoR" Turkey Growing Ration, three times daily the first week and five times daily the second week—all they can clean up in fifteen to twenty minutes.

A special Turkey Finishing Mash is available for those catering to a "Fancy Trade."

DISEASES

For all practical purposes our remarks on poultry diseases are applicable to turkeys. Black-head, roup and other contagious diseases are common and cause great losses. Watch your flock for a little while every day. Turkeys, unless properly fed, often show nutrition deficiency and lack of thrift. The usual cause of this is lack of proper balance in the feed. Turkeys require considerable more protein and vitamins and minerals properly balanced than poultry, and, for this reason, "ViGoR" Turkey Rations are built up to a higher level.

RAIL GRADING OF MARKET HOGS

EXPLANATION OF RAIL GRADING

Hog grading was adopted in Canada after the last war as a policy towards swine improvement in an endeavour to obtain a larger share of the British market and also secure for the Canadian consumer better bacon and pork products.

It provided a system whereby the farmer producing better hogs would receive greater cash returns than the farmer careless in his breeding and feeding practices and so offering incentive towards high quality production.

Started on a live hog basis, it has now developed to a point where it is the carcass, not the live hog, which is graded. Means have been found (tattooing) to ensure the right identification of each carcass. Not only is truer grading possible, but guesswork is eliminated—actual measurement can be made.

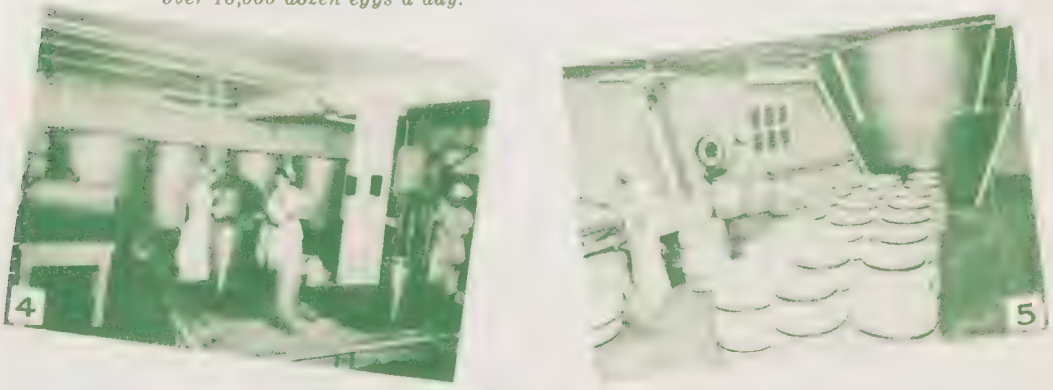
Frequently additional returns accrue from a factor, hidden in the hog, known in the trade as yield. Hogs of the apparent same live weight seldom have the exact same weight of meat. It is meat the packer wants—meat the farmer produces and should be paid for. In rail grading the farmer is paid for the exact amount of meat *to the pound* in each carcass. No longer is a farmer penalized because he chances to live far from market. Shrinkage of body flesh is small in normal transit. No longer can the unscrupulous individual pass off *watered stock.*

All grading is done to standards set up by the Dominion Government. These standards, dictated by the consumer, are known as *market requirements.* All grading is done by officials appointed by the Dominion Government and solely in the employ of the Dominion Government. It is their duty to give *unbiased* allocation of grades when judging each individual carcass in conformity with standard specifications. They are also responsible for true weight. Weighing itself is *automatic*, and all weights are printed on scale tickets. These tickets are used to carry weight, identification, and grade allocated. And now they are being put to further use through the introduction of a code system (see letters on right of scale ticket). This enables information to be carried to every farmer on his hog sales statement as to the defects which resulted in his hogs being put in lower classification if not A's, so providing another step towards improvement. Further, bruising and disease found can be reported upon. Progressive breeders are enthusiastically making use of these aids. We ask you, if you are not already doing so, to follow suit.

Turn to page 11 for reproduction of Rail Grading Inspection Cards.

BURNS' EGG POWDERING PLANT

(1) *The new Burns' Egg Drying Plant shown above is located at Calgary and has a capacity for drying and powdering over 215,000 eggs daily. The view shows a dray load of eggs being unloaded and a carload of dried whole eggs ready for shipment to Britain.* (2) *Eggs are transferred from the cases to buckets and are conveyed to the breaking room below.* (3) *A general view of the breaking room where girls break and test, by smell, over 18,000 dozen eggs a day.*



(4) *The above view shows the strainer, clarifier, homogenizer, and the holding tanks from which the liquid egg is pumped to the top of the dryer.* (5) *The big inverted cone is the dryer. It extends into the room above and the room below. The liquid egg is sprayed into the top of the dryer, where an internal temperature of approximately 270° F. converts the liquid into powder which gravitates to the base of the cone two storeys below. The powder is then removed, cooled, sifted and packed into 14-pound cartons and 175-pound barrels.*

THE MILKING HERD

Cow's milk was originally provided solely as feed for her calf. Calving is still the greatest incentive for the production of milk. When the cow is in good condition for calving, and is properly managed after calving, she should reach the maximum milk production in about six weeks. Just what the maximum is, and just how successfully the lactation period is prolonged, and the level of milk flow held up depends in a very large degree on the feeding ration and feeding method.

ROUGHAGE

In planning the dairy ration, consideration must always be given to the digestive capacity of cattle. A cow's digestive system is so extensive that one of her greatest needs is for bulk. Not only can she handle large amounts of roughage, but she also requires bulk in the grain ration. Since cows require lots of roughage, the best plan is to provide roughage of high quality capable of supplying plenty of feeding value as well as large volume. Usually cows can be given all the roughage they can clean up, although much depends on the individual animal. For best results hay should be leafy, clean, dry and free from weeds. Legume hays are usually best, but good quality timothy is also valuable. Early cut timothy is the best type of grass hay, and if mowed just before it fully heads out it carries considerable more protein than it will if cut after reaching full bloom. A combination of alfalfa and timothy will often prove to be the best roughage of all. It is very palatable to cattle and usually produces a lot more feeding value per acre than either timothy or alfalfa alone.

NEED FOR SUPPLEMENT

Because bulky roughages fail to supply all the nutriments cows require, a grain mixture must be provided. Milk building calls for carbohydrates and fats for making milk, sugar and butterfat and protein for making the curd. Home-grown grains will furnish the necessary materials for the sugar and the butterfat, but a richer source is required for the protein. A cow will only make as much as she can provide curd for, and she cannot make curd out of carbohydrates. A cow will, on the other hand, make butterfat out of protein—and this is a strong reason for including an ample amount of protein in the ration.

WEIGHING THE MILK AND FEED

One thing that should be constantly kept in mind in figuring feed rations is that every cow has a different milk making capacity. That means that the milk

Fed with grains containing "ViGoR" Dairy Protein and Mineral Supplement.

from each animal must be weighed and each fed according to production. The weighing of milk and the weighing of feed takes so little time it should be made a routine by every dairy farmer who is serously attempting to increase the margin of profit over feed costs.

GENERAL FEEDING RULES

The choice of the concentrate mixture is determined by the quality of the roughage. When roughage is low in protein, the concentrate mixture must naturally provide more protein than when the roughage is high.

As a general average, cows will consume about two pounds of hay or dry roughage *daily* for each hundred pounds of live weight when the grain mixture is fed according to milk production. When plenty of good quality roughage is being fed, a cow should receive one pound of grain ration per day for each pound of butterfat produced per week. Cows providing seven pounds or more of butterfat per week should receive extra allowance of grain—one-half to two pounds above the regular grain ration per day, and cows turning out as much as fourteen pounds of butterfat or more per week should have their basic allotment of fourteen or more pounds of grain ration stepped up by an extra four or five pounds per day.

Another way to figure the grain ration is on the basis of the number of pounds of milk produced. Ayrshires, Holsteins and Shorthorns should receive one pound of grain ration per day for each three to four pounds of milk produced per day; while Jerseys and Guernseys could be given a pound of grain ration for each two and one-half to three pounds of butterfat per day. Feeders should also give consideration to each animal's condition in determining the individual grain ration.

A dairy cow is best judged by her performance. This is easily determined by keeping records of her production—the pounds of milk at each milking—the fat tests of butterfat—the cost of the feed consumed. This method gets right at the cow's producing capacity, and determines her fitness for a place in the herd and also her value for breeding purposes.

MORE DOLLARS PER HEAD WITH BEEF CATTLE

The market demand for heavy-weight cattle has diminished greatly during the past ten or fifteen years, and the tendency for lighter stock has increased every year. Ranchers, therefore, have to change their methods of feeding to procure: First—*quick gains* to bring stock on the market at an early date and if possible before seasonal rushes. Second—*cheap gains* to keep production costs down; and third—to procure *prime quality* to procure premium prices.

IMPORTANCE OF PROTEIN

Quick gains are necessarily cheap gains—and quick gains in a growing animal are determined largely by the abundance of digestible proteins given the animal. Good gains can be made by feeding concentrates added to the grain. However, it is not so much the percentage of protein given, but the quality of the *digestible protein* available in the combined concentrate and grain ration fed that is the determining factor. "VIGOR" Beef Cattle Protein and Mineral Supplement contains a blend of highly digestible vegetable and animal concentrates selected for their protein availability and palatability together with high-grade mineral elements which aid in proper metabolism. It is well known that the use of a proper amount of supplement shortens the feeding period considerably, and in a "high finish" with few digestive troubles. Of course the quality of the roughage is very important. Good roughage will reduce the quantity of grain and concentrates required to finish the "prime" animal.

QUALITY OF BEEF CATTLE

One of the best indications of quality in the beef animal is the hide which should be flexible, easily stretched and only medium thick when rolled up in the hands. The hair should be soft, silken and fine with a luster and sheen. Quality is bred into the animal. Good feeding practice can develop the maximum quality of which the animal is capable. And here, again, we emphasize plenty of pure, fresh water to give cattle thrifty gains. A yearling steer requires five gallons a day, and other beef animals drink in proportion to their size.

Blend "VIGOR"
Beef Cattle Protein and
Mineral Supplement
with your
Ground Grains
for
Quicker Gains of Quality
Beef.

TODAY'S CALF

Burns' VIGOR REGISTERED

TOMORROW'S COW

The "VIGOR" Way

REDUCE THE DAYS OF CALFHOOD

Although calfhood is the period of growth and constantly increasing value, yet it is the non-productive period in the life of a cow and it is to the dairyman's advantage to shorten this period as much as possible to hasten the days of fruitful and profitable production.

What every dairyman desires is not "cheaply raised" calves, but "efficiently raised", for, if under-fed, the period of growth is increased, often resulting in an inefficient and non-productive cow.

If, however, the calf's growth is steadily maintained, the time of production is hastened and maximum returns absolutely assured.

On farms selling whole milk, calf raising is a very serious problem, as the farmer heretofore has invariably been faced with the alternative of under-nourishing his calves or of greatly increasing the cost of raising.

"VIGOR" Calf Meal has solved this problem efficiently for every dairyman.

"VIGOR" WAY TO RAISE CALVES

Some dairymen prefer to remove the Calf from its mother very soon after birth—others let the Calf remain with its dam for a day or two—but whatever the practice may be in this regard, the Calf should receive its mother's milk for the first ten days. The quantity it receives will vary with its size, about one pound of milk to ten pounds of live weight is the usual practice, so that for the first few days the average Calf will receive about six pounds of its mother's milk daily. This milk allowance should be increased very gradually until at ten days it will be receiving about eight pounds of milk daily.

Beginning with the eleventh day the milk should be gradually replaced with gruel (1 lb. of Calf Meal to 8 lbs. hot water). Simultaneously the amount of whole milk the Calf receives should be decreased until at six weeks of age the whole milk in the ration has been entirely substituted by gruel, which at this age should consist of 1¼ pounds of "VIGOR" Calf Meal and 10 pounds of water.

Gradually increase the amount of gruel until between the third and fourth month the average Calf receives two pounds of "VIGOR" Calf Meal mixed with 16 pounds of water. It is seldom necessary to increase the amount of Calf Meal beyond two pounds daily, and at this age the gruel should gradually be replaced with a dry grain ration consisting of equal parts of crushed or ground oats, wheat bran and "VIGOR" Calf Meal, until at five or six months the gruel has been entirely replaced with dry grain ration of which the Calf should be receiving three pounds daily.

The Calf should be encouraged to eat a little dry grain at quite an early age, and should have a limited supply (seldom over one pound daily) placed before it at six weeks of age. Equal parts of Wheat Bran and Crushed Oats is a suitable mixture for this purpose. If the Calf gets used to grain this way there will be no trouble at weaning from "VIGOR" Calf Meal to dry grain at from three to four months as mentioned above.

Some dairymen prefer to substitute the gruel with a dry grain ration as early as possible, and the substitution can be commenced as early as two months of age provided the daily amount of "VIGOR" Calf Meal is sufficient to ensure rapid, thrifty growth.

WATER AND SALT

Clean, fresh water in ample quantities should be available at all times after the first week or two. It is advisable to have Iodized Block Salt before the Calf after the third week.

HAY

An abundant supply of good, clean Hay is desirable twice daily. The Calf will begin to eat hay at two weeks of age. It is not advisable to turn a Calf out on pasture until well over four months and then when it is not too sunny.

Less than 200 pounds of "VIGOR" Calf Meal (a milk substitute) will feed a Calf properly to 6 months of age.

"VIGOR" Calf Meal

INGREDIENTS

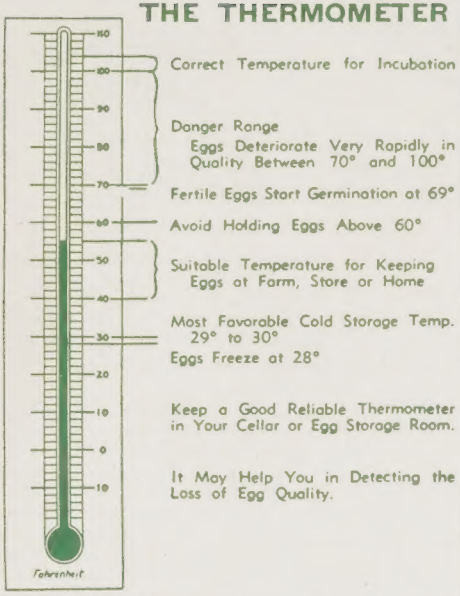
Ground flaxseed, blood meal, bran, cocoanut oilmeal, wheat middlings, Soya bean oilmeal, cottonseed oilmeal, ground limestone, iodized salt, 1%; bone char, 1%; powdered skimmilk, cane sugar, oil-cake meal, corn gluten feed, fortified vitamin-tested fish oil, wheat germ oil, potassium iodide.

GUARANTEED ANALYSIS

PROTEIN	28.00%
FAT	5.00%
FIBRE	6.00%
CARBOHYDRATES	50.00%

USEFUL INFORMATION

THE THERMOMETER



CONVERSION OF TEMPERATURE

Fahrenheit to Centigrade:

Fahr. degrees $- 32 \times 5 \div 9 = C.$

Centigrade to Fahrenheit:

Cen. degrees $\times 9 \div 5 + 32 = F.$

EGG-FEED RATIO

Commercial poultrymen are interested in the price they must pay for poultry feed as well as the price they receive for eggs.

The Egg-Feed Ration may be computed by dividing the price of one dozen eggs by the price of one pound of feed. This figure or ratio represents the number of pounds of feed that can be bought with one dozen eggs. If other things are equal the egg producer is better off when one dozen eggs will buy 20 lbs. of feed than when a dozen eggs will buy only 10 lbs. of feed, because the cost of feed is a considerable item in the commercial poultryman's cost of production. The ratio does not indicate the absolute profitableness of commercial egg production because there are other expenses besides the cost of feed.

EPSOM SALTS

The dosage for Epsom salts commonly used for one hundred birds is as follows:

Dissolve in as much water as the flock will usually drink in half a day.

2 to 3 weeks of age	1 tbsp.
3 to 4 weeks of age	2 tbsps.
4 to 7 weeks of age	4 tbsps.
7 to 10 weeks of age	8 tbsps.
10 to 16 weeks of age	½ pound.
16 weeks and over	1 pound.

Tablespoonfuls should be level.

WATER

Average consumption by ages per day for 100 birds:

1st week	4 quart jars.
2nd to 4th week	2 gallons.
5th to 8th week	3 gallons.
9th to 11th week	4 gallons.
12th week and over	5 gallons.

Remember that water is as important as feed.

POULTRY TONIC

The following is a recommended tonic for poultry after outbreak of colds. It is not intended to be a cure.

Pulverized gentian	1 lb.
Pulverized ginger	¼ lb.
Pulverized saltpetre	¼ lb.
Pulverized Iron sulphate	½ lb.
Pulverized noxvomica	¼ lb.

INCUBATION PERIODS

Hen	21 days
Duck	28 days
Duck (Muscovy)	35 - 37 days
Goose	28 - 32 days
Turkey	28 days
Guinea	26 - 28 days
Pheasant	21 - 24 days
Peafowl	28 days
Ostrich	42 days
Pigeon	18 - 20 days

WESTERN PRINTING & LITHO CO., LTD., CALGARY

USEFUL INFORMATION

WEIGHTS AND MEASURES

AVOIRDUPOIS WEIGHT (Canada)

16 drams	= 1	ounce (oz.)
16 ounces	= 1	pound (lb.)
25 pounds	= 1	quarter (qrt.)
4 quarters	= 1	hundredweight (cwt.)
20 hundredweight	= 1	ton

14 lbs. = 1 stone.
2240 lbs. = 1 long ton.
112 lbs. = 1 English cwt.
2.2046 lbs. = 1 kilogram.

APOTHECARIES WEIGHT

20 grams	= 1 scruple.
3 scruples	= 1 dram.
8 drams	= 1 peck.
4 pecks	= 1 bushel.

LIQUID MEASURE

4 gills	= 1 pint.
2 pints	= 1 quart.
4 quarts	= 1 gallon.
36 gallons	= 1 barrel.

MEASURE OF LENGTH

12 inches	= 1 foot.	3 inches	= 1 palm.
3 feet	= 1 yard.	4 inches	= 1 hand.
6 feet	= 1 fathom.	7.92 inches	= 1 link.
5½ yards	= 1 rod.	18 inches	= 1 cubit
4 rods	= 1 chain.	40 rods	= 1 furlong.

1760 yards or 80 chains or 8 furlongs = 1 mile.

CUBIC MEASURE

1728 cubic inch	= 1 cubic foot.
27 cubic feet	= 1 cubic yard.
40 cubic feet	= 1 shipping ton.
128 cubic feet	= 1 cord of wood.

SQUARE MEASURE

144 square inches	= 1 square foot.
9 square feet	= 1 square yard.
4840 square yards	= 1 acre.
640 acres	= 1 square mile.

PERCENTAGE OF MOISTURE ALLOWED IN GRAINS

	Straight.	*Tough.*	*Damp.*
Wheat	up to 14.5%	over 14.5% to 17%	over 17%
Durum Wheat	up to 14.8%	over 14.8% to 17%	over 17%
Oats	up to 14.0%	over 14.0% to 17%	over 17%
Barley	up to 14.8%	over 14.8% to 17%	over 17%
Rye	up to 14.0%	over 14.0% to 17%	over 17%
Flax	up to 10.5%	over 10.5% to 13.5%	over 13.5%
Buckwheat	up to 14.8%	over 14.8% to 17%	over 17%
Corn	up to 15.5%	over 15.5% to 17%	over 17%

CANADIAN LEGAL WEIGHT OF PRODUCE

	Lbs. per Bushel.		*Lbs. per Bushel.*		*Lbs. per Bushel.*
Barley	48	Carrots	50	Onions	50
Beans (castor)	40	Clover Seed	70	Parsnips	45
Beans (white)	60	Corn (shelled)	56	Peas	60
Beets	60	Flax Seed	56	Potatoes	60
Blue Grass	14	Hemp Seed	44	Rye	48
Buckwheat	48	Millet	50	Timothy Seed	48
		Oats	34	Wheat	60

CONCRETE MIXTURES

1 bag of cement is considered to be 1 cubic foot. A 1—2—4 mixture contains 1 bag of cement, 2 cubic feet of sand and 4 cubic feet of crushed stone or gravel. Do not use too much water.

	Mixture.
Walks, floors, tanks, cisterns-*Use*	1–2 –3
Walls, beams, columns	1–2 –4
Silo walls, grain bins, manure pits	1–2½–4
Culverts, dams, engine foundations	1–2½–5
Cement and stucco plaster (scratch coat)	1–2½–0
Finish stucco coats	1–3 –0